



FINAL REPORT

Research Grant Award NCCW-0026

I. Introduction

This final report addresses the activities with which ICBO has been involved over the past 12 months under this cooperative agreement.

II. Systems Management and Information Dissemination Support

A. CARES Student Tracking

ICBO has been involved in the design and development of a CARES Student Tracking System Software (CARES). CARES is intended to provide an effective means of maintaining relevant current and historical information on NASA-funded students through a range of educational program initiatives. It also has the capability to support the preparation of the White House Initiative Report. ICBO took an overall prototype development approach which allowed for successive iterations and refinements of the system. ICBO completed several technical activities associated with the overall development of the system. These included:

- Specification of Managed System "Views" which focus on various elements defined by the Process Definition (e.g., Participants, Programs, Universities, NASA Sites/Installations)
- Specification of Data Elements
- Development of System File Structure, Screen Design, and Layout
- Development of Queries, Reports, Search Functions, etc.
- Development of user help features, such as error checking and system help messages
- Development of a CARES User Instruction Guide
- Generation of over 5,000 student participant records for testing purposes.

ICBO completed Beta-testing the pre-release (i.e., version 0.99) of the system and the final version (1.0) was completed and delivered to NASA. Effective implementation of the CARES System by NASA will require

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specification of data sources (such as NASA's Central Computing Facility) and procedures for data access and input to CARES.

B. Information Dissemination Support

ICBO provided on-going support in the design and preparation of technical reports and materials in support of MURED and Code E.

C. RESOURCE Document Preparation and University Data Update

ICBO worked on the preparation of the RESOURCE Handbook. ICBO prepared a survey guide to be administered to 17 minority institutions (including six Hispanic-serving institutions). The survey guide, instructions, and cover letter were sent to NASA MURED in September 1993 for review and signature and to be mailed to the university points of contact. The surveys were mailed by NASA to the universities in early November 1993. ICBO anticipated responses to the surveys in early December. As of December 10, 1993, only four institutions had provided survey data. As a result, ICBO was only able to prepare a draft version of the document prior to the end of the cooperative agreement. This draft version was completed and delivered to NASA.

III. Program Outreach and Research Project Development

ICBO was extensively involved in the formation of a minority university consortium and implementation of collaborative research activities by the consortium as part of NASA's Mission to Planet Earth/Earth Observing System. The EOS Minority Consortium initially consisted of California State University, Los Angeles (Cal State LA), Central State University (CSU), Texas Pan American University, Texas A&I University, and the University of Puerto Rico. ICBO prepared a draft EOS Network Plan as a basis for discussions with NASA scientists at Goddard Space Flight Center (GSFC) and Program Managers at NASA Headquarters. NASA personnel at both NASA Headquarters and GSFC expressed interest in the Plan and gave suggestions on how to strengthen the overall document, given the direction and focus of the EOS activities.

The Plan provided for the conduct of various research projects to be pursued in an inter-disciplinary fashion among the participating institutions.

As part of the overall EOS Network Plan the consortium would begin to utilize current Pathfinder Datasets as a prelude to receipt of the EOS data. ICBO worked with NASA MU-SPIN personnel to plan for the implementation of a communications infrastructure among the consortium institutions to facilitate access to and distribution of both the Pathfinder and eventual EOS datasets.

As a result of discussions with the EOS Program Scientist, ICBO worked with the consortium to develop a phased approach to implementation of the overall Plan. The initial phase included the following:

- Modeling and Data Processing (with emphasis on terrestrial vegetation).
- Interdisciplinary research focus in several areas (studies of coastal habitats, including coastal geomorphology, ocean primary production, and associated population dynamics).
- Human Settlements, with emphasis on urbanization in environmental degradation.
- Establishment of a communications infrastructure for primary data access and distribution.
- Definition of a User (i.e., minority researchers) Model to determine requirements for access to and distribution of Pathfinder and EOS datasets.

The EOS Program Scientist reviewed and concurred with the Phase I modifications which were incorporated into the final version of the EOS Network Plan which has been delivered to NASA.

ICBO has been working with the University Consortium for Research and Development (UCRD), a consortium comprised of 19 leading HBCUs and seven Midwestern (i.e., majority institutions) to develop various outreach and technology initiatives, under the Joint Science and Technology Alliance (JSTA), which focus on several key technical areas, including High Performance Computing, Computational Science, and Micro-gravity. NASA has taken a lead agency role in coordinating multi-agency support (e.g., DoD, NSA, NSF) to implement various program activities as part of UCRD. A major planned outreach initiative is the conduct of a High School Supercomputing Challenge. This planned activity will involve the UCRD working with various federal labs, such as JPL and Los Alamos, as well as utilizing super-computing resources available through the labs and the Army's High Performance Computing Research Center at the University of Minnesota. The first UCRD-sponsored High School Supercomputing Challenge is being planned for 1994.

IV. Business and Industry Development

ICBO has been involved in the formation of an HBCU/MI Consortium to facilitate technology transfer efforts to the small and minority business community in their respective regions. The initial Consortium members consist of North Carolina A&T State University (NCA&TSU); Florida International University (FIU); and Central State University (CSU). ICBO worked with the consortium in the planning and preparation of a Strategic Commercialization and Utilization Initiative (SCUI) proposal. The SCUI consists of three major components or "pillars":

- Technology & Manufacturing Training.
- Applied R&D/Manufacturing Outreach (includes the cross function design team).

- The Technology Transfer Clearinghouse.

Following the submission of the proposal, ICBO held discussions and coordinated with Code C and Code E for a briefing by the SCUI Consortium members at NASA Headquarters to explain the SCUI concept and approach. ICBO worked extensively with the SCUI members in the preparation of the briefing (held in October 1993). Subsequent to the briefing, meetings were held among Code C and Code E personnel and ICBO regarding the outcome of the briefing and planned actions. Code C stated to ICBO that it was in support of the overall initiative and proposed effort. Code C planned to address several areas as part of the development of a cooperative agreement between NASA (e.g., Code C) and the Consortium. These included agreement on measurable results.